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TRI-OLOGY

A PUBLICATION FROM THE DIVISION OF PLANT INDUSTRY, BUREAU OF ENTOMOLOGY, NEMATODOLOGY, AND PLANT PATHOLOGY

Dr. Trevor R. Smith, Division Director



BOTANY

Providing information about plants: native, exotic, protected and weedy



ENTOMOLOGY

Identifying arthropods, taxonomic research and curating collections



NEMATOLOGY

Providing certification programs and diagnoses of plant problems



PLANT PATHOLOGY

Offering plant disease diagnoses and management recommendations



Florida Department of Agriculture and Consumer Services • Adam H. Putnam, Commissioner



Asclepias variegata L. (white milkweed)
 Photograph courtesy of Jeffrey Weston Lotz, DPI

ABOUT TRI-OLOGY

The Florida Department of Agriculture and Consumer Services Division of Plant Industry's Bureau of Entomology, Nematology and Plant Pathology (ENPP), (including the Botany Section), produces TRI-OLOGY four times a year, covering three months of activity in each issue.

The report includes detection activities from nursery plant inspections, routine and emergency program surveys, and requests for identification of plants and pests from the public. Samples are also occasionally sent from other states or countries for identification or diagnosis.

HOW TO CITE TRI-OLOGY

Section Editor. Year. Section Name. P.J. Anderson and G.S Hodges (Editors). TRI-OLOGY Volume (number): page. [date you accessed site] website address.

For example: S.E. Halbert. 2015. Entomology Section. P.J. Anderson and G.S Hodges (Editors). TRI-OLOGY 54(4):9. [accessed June 5, 2016] <http://FreshFromFlorida.s3.amazonaws.com/Media%2FFiles%2FPlant-Industry-Files%2FTri-ology%2FTri-ology%2C+Volume+54%2C+Number+4%2C+May+-+June+2015.pdf>

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We welcome your suggestions for improvement of TRI-OLOGY. Please feel free to contact the [helpline](#) with your comments. 1-888-397-1517

Thank you,

Dr. Gregory Hodges, Editor
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HIGHLIGHTS



1 *Cissus verticillata* (L.) Nicolson & C.E. Jarvis (seasonvine, possum grape, princess vine). This native vine is sometimes cultivated as an ornamental, but can also become an aggressive intruder given good growing conditions in South Florida.



1 - *Cissus verticillata* (possum grape)
Photograph courtesy of Shirley Denton, [Atlas of Florida Plants](#)

2 *Ochropepla inaequalis*, a membracid bug, a new Continental USA record. One specimen of *Ochropepla inaequalis* Fowler was collected in Miami. Although new to Florida proper, it has been intercepted at the Miami airport numerous times since 2000 in cut flower cargo shipments, primarily from Colombia.



2 - *Ochropepla inaequalis*, a membracid bug
Photograph courtesy of Susan E. Halbert, DPI

3 *Scutellonema bradys* (Steiner & LeHew, 1933) Andr ssy, 1958, the yam nematode, was detected in soil particles adhering to the surface of roots of Bermuda grass, *Cynodon dactylon*. The yam nematode is an endoparasite of yam (*Dioscorea* sp.) roots and tubers in many tropical countries. It can reproduce in high numbers in stored yam tubers, causing severe damage.

4 On June 16, 2016, a California Department of Agriculture (CDFA) inspector at a California nursery intercepted a shipment with leaf spots diagnosed as *Cercospora coniogrammes* on *Blechnum gibbum* (dwarf tree fern) that originated at a central Florida nursery.



3 - *Scutellonema bradys* female.
Photography credit Jason D. Stanley, DPI



3 - *Blechnum gibbum*, dwarf tree fern
Photograph courtesy of Daderot, Wikipedia





BOTANY

Compiled by Patti J. Anderson, Ph.D.

This section identifies plants for the Division of Plant Industry, as well as for other governmental agencies and private individuals. The Botany Section maintains a reference herbarium with over 12,000 plants and 1,400 vials of seeds.

QUARTERLY ACTIVITY REPORT

	JULY - SEPTEMBER	YEAR TO DATE
Samples submitted by other DPI sections	1,190	4,198
Samples submitted for botanical identification only	131	436
Total samples submitted	1,321	4,634
Specimens added to the Herbarium	99	477

Some of the samples received for identification are discussed below:

1 *Cissus verticillata* (L.) Nicolson & C.E. Jarvis (**seasonvine, possum grape, princess vine**), from a genus of about 200 species in warm and tropical regions. Vitaceae. (Synonyms: *C. sicyoides*; *C. ovata*; *C. pallida*.) This native vine is sometimes cultivated as an ornamental, but can also become an aggressive intruder given good growing conditions in South Florida. The stem of this often rampant vine is slightly fleshy, sometimes warty and usually glabrous, growing up to 20 m long. Leaves are alternate, with simple, somewhat succulent and asymmetrical blades. The leaf blades are 5-15 cm long, variable in shape, with rounded, truncate or cordate bases, and may be densely pubescent to glabrous. The margins are finely serrate, at least toward the tip of the leaf blade, again being quite variable. The inflorescence is a many-branched cyme, with individual flowers having four pale yellow to yellow-green petals. The ripe fruit is a blue-black, 6-9 mm berry with a single seed. This species was submitted three times for identification during this quarter. Although anecdotal, this activity might suggest an increased presence or popularity of the species or suggest that the variability of the species makes it difficult to identify in the field. The vine has been found in at least 80 conservation areas in South Florida. In addition to Florida, the distribution of this species includes Mexico, Central America, South America and the West Indies. (Broward County; B2016-352; Justin K. Anto; 3 August 2016; Miami-Dade County; B2016-364; Jake M. Farnum; 16 August 2016; Miami-Dade County; B2016-401; Jake M. Farnum; 13 September 2016.) (Correll and Correll 1982; Mabberley 2008; Wunderlin and Hansen 2011. <http://regionalconservation.org/ircs/database/plants/PlantPage.asp?TXCODE=Cissvert> accessed 18 October 2016.)



1 - *Cissus verticillata* (possum grape)
Photograph courtesy of Shirley Denton, [Atlas of Florida Plants](#)



REFERENCES


Correll, D.S. and H.B. Correll. 1982. Flora of the Bahama Archipelago. J. Cramer, Hirschberg, Germany. 1,692 p.

Mabberley, D.J. 2008. Mabberley's plant-book: a portable dictionary of plants, their classification and uses, 3rd edition. Cambridge University Press, New York, New York. 1,021 p.

Wunderlin, R. P. and B. F. Hansen. 2011. Guide to the vascular plants of Florida, 3rd edition. University Press of Florida, Gainesville, Florida. 783 p.

BOTANY IDENTIFICATION TABLE

The following table provides information about **new** records submitted in the current volume's time period. The table is organized alphabetically by collector name. The full version with more complete data is downloadable as a [PDF](#) or [Excel](#) spreadsheet.

NEW RECORD	COLLECTOR 1	COLLECTOR 2	COUNTY	SAMPLE NUMBER	COLLECTION DATE	GENUS	SPECIES
	Susan B. Youngblood		Hillsborough	B2016-330	July 26, 2016	<i>Eulophia</i>	<i>graminea</i> Lindl.





ENTOMOLOGY

Compiled by Susan E. Halbert, Ph.D.

This section provides the division's plant protection specialists and other customers with accurate identifications of arthropods. The Entomology Section also builds and maintains the arthropod reference and research collection (the Florida State Collection of Arthropods (FSCA) with over 9 million specimens) and investigates the biology, biological control and taxonomy of arthropods.

QUARTERLY ACTIVITY REPORT

JULY - SEPTEMBER

Samples submitted	1,419
Specimens Identified	1,996

YEAR TO DATE

Samples submitted	4,680
Specimens identified	6,952



1 - *Ochropepla inaequalis*, a membracid bug
Photograph courtesy of Susan E. Halbert, DPI

1 *Ochropepla inaequalis*, a membracid bug, a new Continental USA record. One specimen of *Ochropepla inaequalis* Fowler was collected by hand on the leaf of an undetermined plant in Miami. Although new to Florida proper, it has been intercepted at the Miami airport numerous times since 2000 in cut flower cargo shipments, primarily from Colombia. Inspectors have intercepted 426 specimens (412 adults, 14 nymphs) in 305 separate shipments representing 22 different plant genera. This species is not known to be a pest in its native range of Central and northern South America. (Miami-Dade County; E2016-3846; Olga Garcia; 11 August 2016.) (Mark J. Rothschild.)



2 - *Opiconsiva tangira*, a membracid bug
Photograph courtesy of Charles R. Bartlett, University of Delaware

2 *Opiconsiva tangira*, a delphacid planthopper, a new Continental USA record. This species is widespread in the Old World, and there are unconfirmed reports of this planthopper from the Caribbean Basin. Little is known about its biology and host preferences. It is not known to be a serious pest anywhere in the world. Please see Dr. Bartlett's website on *Opiconsiva* for more information and photographs: <http://ag.udel.edu/research/delphacid/species/opiconsiva.htm>. (Collier County; E2016-124; Xu-lin Chen and Monica Triana, University of Florida, Southwest Florida Research and Education Center; 5 January 2016.) (Dr. Charles R. Bartlett, University of Delaware, and Dr. Susan E. Halbert.)



3 - *Megacyllene caryae*, the hickory borer
Photograph courtesy of Paul E. Skelley, DPI

3 *Megacyllene caryae*, hickory borer, a new Florida State record. A CAPS survey in Palm Beach County in March 2016 collected a specimen of *Megacyllene caryae* (Gahan), the hickory borer, in a Lindgren funnel trap. The beetle is common in the eastern United States, but is not known in Florida. This species lives in dead hickory wood and is not considered a pest. It is known to be transported in fire wood and will emerge in the winter when wood is brought inside and warmed by a fire, or in this case, in sunny Florida. Since the species has not been collected in Florida before, and considering the distance from its native range, we can only assume it was transported in fire wood and hope that the collection represents a stray individual. (Palm Beach County; E2016-3798; Eric M. Dougherty, CAPS/DPI; 31 March 2016.) (Dr. Paul E. Skelley.)



4 *Tagosodes dorsolineatus*, a delphacid planthopper, a new Florida State record. This species has been previously reported only from Texas, where it is not known to be a serious pest. Other species in the genus are pests and vectors of plant pathogens in rice. This planthopper looks very similar to others in the genus that are common in Florida. Adult males are necessary for species identification. Please see Dr. Bartlett's website on *Tagosodes* for more information and photographs of this species and others in the genus: <http://ag.udel.edu/research/delphacid/species/tagosodes.htm>. (Collier County; E-2016-2742; Monica Triana, University of Florida, Southwest Florida Research and Education Center; 7 June 2016.) (Dr. Susan E. Halbert and Dr. Charles R. Bartlett, University of Delaware.)

5 *Xyleborinus octiesdentatus*, a scolytid beetle, a new Florida State record. A single specimen of *X. octiesdentatus* was collected on May 30, 2016, in a manuka oil-baited Lindgren funnel trap placed at the Agricultural Interdiction Station at I-10 in Pensacola. The female is 2.1-2.4 mm long, the male smaller and deformed (as in most haplo-diploid Xyleborines); it is easily distinguished from other Florida species of *Xyleborinus* by the numerous long, spine-like tubercles on the elytral declivity. Its native range includes China, Japan, and South Korea, and it was first detected in the United States in Alabama and Louisiana in 2008. Known hosts of *X. octiesdentatus* are *Carpinus laxiflora*, *Cleyera* sp., *Eurya japonica*, *Illicium religiosum*, and *Ilex rotunda*. It has not been collected yet from host material in the United States. (Escambia County; E2016-4090; Mary Ann Flores; 30 May 2016.) (Rabaglia *et al.* 2010.) (Katherine E. Okins.)

6 *Eudocima apta*, a giant fruit-piercing moth, a new County record. The adult moths of *Eudocima* species damage fruit by piercing and sucking juice. This tropical species, native to Central and South America and the Caribbean, is a strong flier that historically has been found in Florida only as single stray individuals. This specimen was discovered at night when its large eyes reflected light from the roadside. There is reason to suspect that it might have come from a local population, since more moths have been sighted recently in a neighboring county. The larval host plants are Menispermaceae; thus far, no larvae have been located. (Miami-Dade County; E2016-3632; Isaiah J. Hoyer, University of Florida, Florida Medical Entomology Laboratory; 13 June 2016.) (Dr. James E. Hayden.)

REFERENCES

Rabaglia, R.J., M. Knížek and W. Johnson. 2010. First records of *Xyleborinus octiesdentatus* (Murayama) (Coleoptera, Curculionidae, Scolytinae) from North America. *Zookeys*. 2010: 219–226. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3088321/> [accessed 19 December 2016].



5 - *Xyleborinus octiesdentatus*, a scolytid beetle
Photograph courtesy of Katherine E. Okins, DPI



6-*Eudocima apta* (Walker), a giant fruit-piercing moth. Scale in mm.
Photograph courtesy of James E. Hayden, DPI



🔍 ENTOMOLOGY IDENTIFICATION TABLE

Following are tables with entries for records of new hosts or new geographical areas for samples identified in the current volume's time period as well as samples of special interest. An abbreviated table, with all the new records, but less detail about them, is presented in the body of this web page and another version with more complete data is downloadable as a [PDF](#) or [Excel](#) spreadsheet.

The tables are organized alphabetically by plant host, if the specimen has a plant host. Some arthropod specimens are not collected on plants and are not necessarily plant pests. In the table below, those entries that have no plant information included are organized by arthropod name.

PLANT NAME	PLANT COMMON NAME	ARTHROPOD	ARTHROPOD COMMON NAME	RECORD
<i>Agave</i> sp.		<i>Paracoccus gilliana</i>	a mealybug	REGULATORY INCIDENT
<i>Andropogon gyrans</i>	Elliott's bluestem	<i>Kelisoidea versa</i>	a delphacid planthopper	NOTABLE FIND
<i>Beta vulgaris</i>	swiss chard; leaf beet; spinach beet	<i>Plagioderma californica</i>	a chrysomelid beetle	REGULATORY INCIDENT
<i>Brassica rapa</i>	pak-choi, bok-choi, pak-choy, bok-choy, Chinese mustard, celery mustard	<i>Liriomyza langei</i>	California pea leafminer	TRUCK INTERDICTION
<i>Brassica rapa</i>	pak-choi, bok-choi, pak-choy, bok-choy, Chinese mustard, celery mustard	<i>Lygus</i> sp.	a lygus bug	TRUCK INTERDICTION
<i>Calophyllum</i> sp.		<i>Salina banksi</i>	eastern green grass springtail	COUNTY
<i>Capsicum annuum</i>	pepper	<i>Bactericera cockerelli</i>	potato psyllid	REGULATORY INCIDENT
<i>Capsicum annuum</i>	pepper	<i>Bactericera cockerelli</i>	potato psyllid	TRUCK INTERDICTION
<i>Cichorium endivia</i>	endive, escarole, frisee	<i>Liriomyza langei</i>	California pea leafminer	TRUCK INTERDICTION
<i>Cichorium endivia</i>	endive, escarole, frisee	<i>Lygus hesperus</i>	a western lygus bug	TRUCK INTERDICTION
<i>Citrus sinensis</i>	sweet orange, navel orange	<i>Pachymerus nucleorum</i>	a bruchid beetle	COUNTY
<i>Citrus x paradisi</i>	grapefruit	<i>Odinia conspicua</i>	an odiniid fly	COUNTY
<i>Coccoloba uvifera</i>	seagrape	<i>Nymphocixia unipunctata</i>	a cixiid planthopper	COUNTY
<i>Colocasia esculenta</i>	dasheen; wild taro; taro	<i>Tarophagus colocasiae</i>	a taro planthopper	COUNTY
<i>Crassula</i> sp.		<i>Tenuipalpus sarcophilus</i>	a tenuipalpid mite	COUNTY
<i>Cucumis sativus</i>	cucumber; garden cucumber	<i>Cotinis mutabilis</i>	figeater beetle	TRUCK INTERDICTION
<i>Cynodon dactylon</i>	Bermuda grass	<i>Tarophagus colocasiae</i>	a taro planthopper	COUNTY
<i>Dracaena braunii</i>	lucky bamboo, Belgian evergreen, ribbonplant	<i>Lepidosaphes chinensis</i>	an armored scale	REGULATORY INCIDENT
<i>Eryngium yuccifolium</i>	button eryngo; snakeroot	<i>Diaspis dignus</i>	dignus scale	COUNTY
<i>Euphorbia graminea</i>	grass-leaved spurge	<i>Aleurodicus dugesii</i>	giant whitefly	HOST
<i>Fragaria x ananassa</i>	garden strawberry	<i>Eotetranychus smithi</i>	a tetranychid mite	TRUCK INTERDICTION
<i>Impatiens hawkeri</i>	New Guinea impatiens	<i>Salina banksi</i>	eastern green grass springtail	COUNTY
<i>Ipomoea batatas</i>	sweet potato; boniato; camote; batata	<i>Caliothrips phaseoli</i>	a thrips	COUNTY
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Acyrtosiphon lactuca</i>	lettuce aphid	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Acyrtosiphon lactuca</i>	lettuce aphid	REGULATORY INCIDENT
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION



PLANT NAME	PLANT COMMON NAME	ARTHROPOD	ARTHROPOD COMMON NAME	RECORD
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Nothodelphax consimilis</i>	a delphacid planthopper	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Rhinacloa forticornis</i>	western plant bug	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Systema</i> sp.	a flea beetle	TRUCK INTERDICTION
<i>Liquidambar styraciflua</i>	sweetgum	<i>Sphenostethus taslei</i>	a cerambycid beetle	COUNTY
<i>Lysiloma latisiliquum</i>	wild tamarind, false tamarind	<i>Aphalaroida masonici</i>	a psyllid	COUNTY
<i>Lysiloma latisiliquum</i>	wild tamarind, false tamarind	<i>Heteropsylla quassiae</i>	a legume psyllid	COUNTY
<i>Magnolia ashei</i>	Ashe magnolia	<i>Leptoglossus fulvicornis</i>	leaf-footed bug	COUNTY
<i>Mangifera indica</i>	mango	<i>Allograpta radiata</i>	a syrphid fly	COUNTY
<i>Mangifera indica</i>	mango	<i>Clastoptera</i> sp.	a spittlebug	COUNTY
<i>Mentha</i> sp.	mint	<i>Lygus hesperus</i>	a western lygus bug	REGULATORY INCIDENT
<i>Morus</i> sp.	mulberry	<i>Hyalochloria unicolor</i>	a mirid bug	HOST
<i>Mosiera longipes</i>	mangrove berry	<i>Salina banksi</i>	eastern green grass springtail	COUNTY
<i>Olea europaea</i>	olive	<i>Bactrocera oleae</i>	olive fruit fly	REGULATORY INCIDENT
<i>Persea americana</i>	avocado; alligator pear; aguacate	<i>Abgrallaspis aguacatae</i>	an armored scale	TRUCK INTERDICTION
<i>Persea americana</i>	avocado; alligator pear; aguacate	<i>Acutaspis albopicta</i>	an armored scale	TRUCK INTERDICTION
<i>Persea palustris</i>	swamp bay	<i>Sobarocephala setipes</i>	a clusiid fly	COUNTY
<i>Phoenix dactylifera</i>	date palm	<i>Phoenicococcus marlatti</i>	red date scale	TRUCK INTERDICTION
<i>Pinus</i> sp.		<i>Xyleborinus octiesdentatus</i>	a scolytid beetle	STATE
<i>Plumeria</i> sp.		<i>Pseudosphinx tetrio</i>	frangipani caterpillar	COUNTY
<i>Portulaca oleracea</i>	purslane, little hogweed	<i>Agallia albidula</i>	a leafhopper	HOST
<i>Portulaca oleracea</i>	purslane, little hogweed	<i>Agallia constricta</i>	a leafhopper	HOST
<i>Portulaca oleracea</i>	purslane, little hogweed	<i>Agallia deleta</i>	a leafhopper	HOST
<i>Quercus</i> sp.	oak	<i>Bactrocera dorsalis</i>	oriental fruit fly	REGULATORY INCIDENT



PLANT NAME	PLANT COMMON NAME	ARTHROPOD	ARTHROPOD COMMON NAME	RECORD
<i>Quercus virginiana</i>	live oak	<i>Cymodema breviceps</i>	a seed bug	COUNTY
<i>Tabebuia</i> sp.		<i>Rabela tabebuiae</i>	tabebuia leafhopper	COUNTY
		<i>Achatina fulica</i>	giant African land snail	REGULATORY INCIDENT
		<i>Achatina fulica</i>	giant African land snail	REGULATORY INCIDENT
		<i>Ambrosiodmus tachygraphus</i>	a scolytid beetle	COUNTY
		<i>Bactrocera oleae</i>	olive fruit fly	REGULATORY INCIDENT
		<i>Cedusa carolinensis</i>	a derbid planthopper	COUNTY
		<i>Chrysobothris tranquebarica</i>	a buprestid beetle	COUNTY
		<i>Diachorisia velatella</i>	a tineid moth	NOTABLE FIND
		<i>Diaprepes abbreviatus</i>	diaprepes root weevil	COUNTY
		<i>Erechthias minuscula</i>	Caribbean scavenger moth	NOTABLE FIND
		<i>Eudocima apta</i>	giant fruit-piercing moth	COUNTY
		<i>Goes tumifrons</i>	a cerambycid beetle	COUNTY
		<i>Helix aspersa</i>	brown garden snail	REGULATORY INCIDENT
		<i>Lygus</i> sp.	a lygus bug	REGULATORY INCIDENT
		<i>Lygus</i> sp.	a lygus bug	REGULATORY INCIDENT
		<i>Megacyllene caryae</i>	hickory borer	STATE
		<i>Ochropepla inaequalis</i>	a treehopper	US CONTINENTAL
		<i>Opiconsiva tangira</i>	a delphacid planthopper	US CONTINENTAL
		<i>Solenopsis xyloni</i>	southern fire ant	REGULATORY INCIDENT
		<i>Tagosodes dorsolineatus</i>	a delphacid planthopper	STATE
		<i>Tylonotus bimaculatus</i>	a cerambycid beetle	COUNTY
		<i>Xyleborus glabratus</i>	redbay ambrosia beetle	COUNTY
		<i>Xyleborus glabratus</i>	redbay ambrosia beetle	COUNTY



NEMATODOLOGY



Compiled by Renato N. Inserra, Ph.D., Jason D. Stanley, M.S., Larry L. Violett, B.S., Brian M. Alford, B.S., Alfredo Platinetty, B.S., and Janete A. Brito, Ph.D.

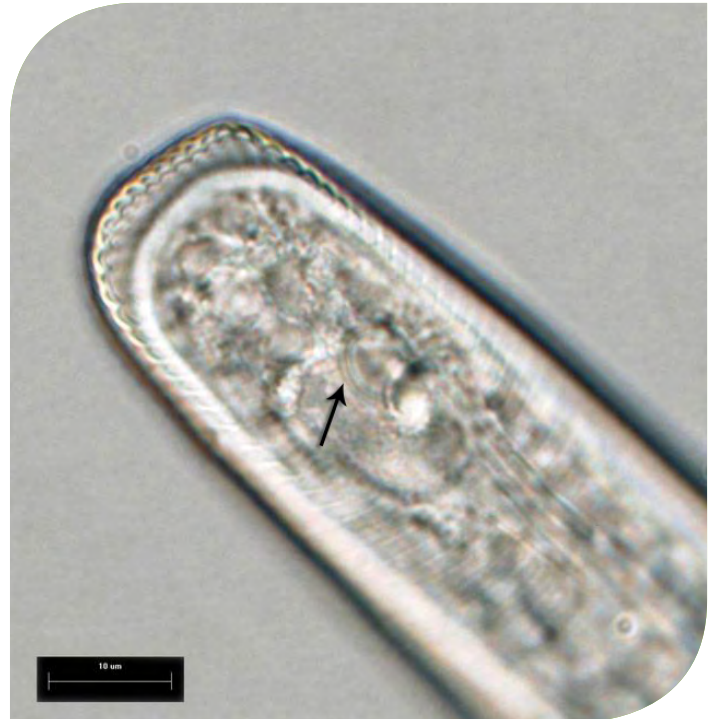
This section analyzes soil and plant samples for nematodes, conducts pest detection surveys and provides diagnoses of plant problems, in addition to completing identification of plant parasitic nematodes involved in regulatory and certification programs. State of Florida statutes and rules mandate the predominant regulatory activities of the section. Analyses of plant and soil samples include those from in-state programs, plant shipments originating in Florida destined for other states and countries, as well as samples intercepted in Florida from outside the United States.

QUARTERLY ACTIVITY REPORT

	JULY - SEPTEMBER	YEAR TO DATE
Morphological identifications	2,763	8,835
Molecular identifications	1,036	2,988
Total samples submitted	3,799	11,823

1 *Scutellonema bradys* (Steiner & LeHew, 1933) Andr ssy, 1958, the yam nematode, was detected in soil particles adhering to the surface of roots of Bermuda grass, *Cynodon dactylon* (L.) Pers. (Seminole County, N16-00978, Larry L. Violett, 15 July 2016).

The yam nematode, *Scutellonema bradys*, is an endoparasite of yam (*Dioscorea* sp.) roots and tubers in many tropical countries. It can reproduce in high numbers in stored yam tubers, causing severe damage. Although *S. bradys* has been reported in Florida for several decades (Sher 1963; Lehman 2002), there is a lack of information about the biology of this nematode in the state. The putative hosts of *S. bradys* in Florida include shrubs and trees such as azalea (*Rhododendron* spp.), castor bean (*Ricinus communis* L.), and live oak (*Quercus virginiana* Mill.) that are grown in non-agricultural lands, as well as crops, such as cabbage, (*Brassica oleracea*) L. However, no experimental work has been conducted to verify that these plants are hosts of *S. bradys*. These reports do not include yam, since this vegetable is not grown commonly or commercially in Florida. A population of this parasite was found in a pasture land in central Florida. Examination of the roots of grasses growing in the pasture land indicated that *S. bradys* specimens were concentrated in soil particles adhering to the surface of Bermuda grass feeder roots. Nematode population levels in the soil samples from this grass were variable and in some case reached 53 specimens (100 cm³ of soil)⁻¹. Other plant parasitic nematodes associated with *S. bradys* on Bermuda grass included lance (*Hoplolaimus galeatus* (Cobb, 1913) Thorne, 1935) and sting (*Belonolaimus longicaudatus* Rau, 1958) nematodes. Specimens of *H. galeatus* were found inside the root tissues indicating that they have endoparasitic habits, whereas those of *S. bradys* and *B. longicaudatus* were observed in soil covering the roots suggesting that they have ectoparasitic habits on this grass.



Scutellonema bradys female. Posterior portion of the body. Note the truncate tail terminus and the round scutellum (arrow). Photograph courtesy of Jason D. Stanley, DPI



Cynodon dactylon (Bermuda grass)
Photograph courtesy of Bidgee, [wikipedia](https://www.wikipedia.org/)



COLLECTORS

Collectors submitting five or more samples that were processed for nematological analysis from January through March 2016.

COLLECTOR NAME	SAMPLES PROCESSED
Bentley, Michael A.	52
Bloom, Richard T.	98
Bupp, Glen R.	8
Burgos, Frank A.	269
Clanton, Keith B.	83
Douglas, Kelly K.	34
Estok, Theresa R.	5
Flores, Mary A.	6
Golden, Walter W.	10
Gonzalez, Kathy A.	22
LeBoutillier, Karen W.	204
Ochoa, Ana L.	244
Smith, Lane M.	10
Spriggs, Charles L.	161
Strange, Lisa S.	80
Terrell, Mark R.	17
Violet, Larry L.	33
Warden, George A.	6

REFERENCES

Lehman, P.S. 2002. *Phytoparasitic nematodes reported from Florida.* Nematology Booklet. <http://freshfromflorida.s3.amazonaws.com/phytonema.pdf>

Sher, S.A. 1963. Revision of the Hoplolaimidae (Nematoda) III. *Scutellonema Andrassy*, 1958. *Nematologica* 9: 421-443.

CERTIFICATION AND REGULATORY SAMPLES

	JULY - SEPTEMBER	YEAR TO DATE
Multistate certification for national and international export	1,939	6,318
California certification	498	1,350
Pre-movement (citrus nursery certification)	106	240
Site or pit approval (citrus nursery and other certifications)	28	147

OTHER SAMPLES

	JULY - SEPTEMBER	YEAR TO DATE
Identifications (Invertebrate)	1	2
Plant Problems	29	134
Random Intrastate Surveys	162	644

IDENTIFICATIONS

	JULY - SEPTEMBER	YEAR TO DATE
Morphological identifications	3,673	12,764
Molecular identifications*	1,036	2,988

* The majority of these analyses involved root-knot nematode species.



PLANT PATHOLOGY

Compiled by Jodi Hansen, Regina Cahoe, David Davison, and Debra Jones

The Plant Pathology section provides plant disease diagnostic services for the department. The agency-wide goal of protecting the flora of Florida very often begins with accurate diagnoses of plant problems. Management recommendations are offered where appropriate and available. Our plant pathologists are dedicated to keeping informed about endemic plant diseases along with those diseases and disorders active outside Florida in order to be prepared for potential introductions of new pathogens to our area.

should be performed and any suspect leaf spot samples submitted to DPI plant pathology lab in Gainesville for confirmation.

QUARTERLY ACTIVITY REPORT

	JULY - SEPTEMBER	YEAR TO DATE
Citrus black spot	0	58
Citrus canker	196	299
Citrus greening / HLB	118	1,298
Honeybees	0	29
Interdictions	18	38
Laurel wilt	14	44
Pathology, general	625	1,892
Soil	10	27
Sudden oak death	0	4
Sweet orange scab-like disease	0	8
Texas phoenix palm decline	0	1
Water	0	0
Miscellaneous	8	15
Total	989	3,710



Cercospora conioagrammes produced leaf spots on *Blechnum gibbum*, dwarf tree fern
Photograph courtesy of Jeffrey Weston Lotz, DPI

1 *Cercospora conioagrammes* leaf spot of fern. On June 16, 2016, a California Department of Agriculture (CDFA) inspector at a California nursery intercepted a shipment with leaf spots diagnosed as *Cercospora conioagrammes* on *Blechnum gibbum* (dwarf tree fern) that originated at a central Florida nursery. Late in August, symptomatic plants were collected by a DPI inspector at the central Florida nursery and sent to the DPI plant pathology lab in Gainesville. A culture characteristic of *Cercospora* was recovered from the leaf spots. The ITS region of the organism was sequenced and found to match *C. conioagrammes*. The fungus that causes the leaf spots, *Cercospora conioagrammes*, has been found previously in only Australia and Brazil. It is known to cause leaf spots only on fern hosts at this time. Leaf spots occur on both sides of the leaves, are sub-circular to angular, grey to light brown, 1-3 mm diameter, enclosed by a thick brown margin, the margin can be up to 4 mm diameter. Control methods include treatment with fungicides containing systemic and contact modes of disease protection. The best management practice would be to rogue any symptomatic plants. Following disposal of diseased plants, surfaces and tools associated with these plants should be sanitized with bleach solution. Routine surveys of potential fern hosts in nurseries



Cercospora conioagrammes produced leaf spots on *Blechnum gibbum*, dwarf tree fern
Photograph courtesy of Jeffrey Weston Lotz, DPI



🔍 PLANT PATHOLOGY IDENTIFICATION TABLE

Following are table provides information about samples identified in the current volume's time. The table is organized alphabetically by plant species, with new records listed on the right.

PLANT SPECIES	COMMON NAME	CASUAL AGENT	DISEASE NAME	LOCATION TYPE	SPECIMEN NUMBER	COUNTY	COLLECTOR	NEW RECORDS	NOTES
<i>Blechnum gibbum</i>	fern	<i>Cercospora coniogrammes</i>	leaf spots	Nursery	89086	Glades	Kathy Gonzalez	state	Symptomatic fern plants from collected at a nursery were identified as having <i>Cercospora coniogramme</i> , a new state record. Leaf spots occur on both sides of the leaves, are sub-circular to angular, grey to light brown, 1-3 mm diam., enclosed by a thick brown margin, up to 4 mm diam.
<i>Dryopteris ludoviciana</i>	southern woodfern	<i>Periconia</i> sp.	leaf spots	State park	89163	Jackson	Robert M. Leahy USDA/ CAPS Brad A. Danner DPI/ CAPS	host	<i>Periconia</i> sp. has a colonial morphology similar to <i>Cladosporium</i> . It can be found on blackened and dead herbaceous stems and leaf spots, grasses, and sedges. It is almost always associated with other fungi.
<i>Dryopteris ludoviciana</i>	southern woodfern	<i>Phyllosticta</i> sp.	N/A	State park	89163	Jackson	Robert M. Leahy USDA/ CAPS Brad A. Danner DPI/ CAPS	host	<i>Phyllosticta</i> sp. is an important plant pathogen that infects the foliage causing tannish-gray leaf spots with dark brown to purple borders.
<i>Gossypium hirsutum</i>	cotton	<i>Nigrospora oryzae</i>	leaf spot	Farm	88914	Hamilton	Robert M. Leahy USDA/ CAPS Brad A. Danner DPI/ CAPS	host	<i>Nigrospora oryzae</i> , is a boll rot fungus that causes crop loss by reducing yields, staining and reducing the strength of the cotton lint and by infecting the seed. Colonies of <i>Nigrospora oryzae</i> on leaf samples are initially white and then became grayish brown with the onset of sporulation.
<i>Gossypium hirsutum</i>	cotton	<i>Mycoleptodiscus indicus</i>	leaf spots	Farm	88914	Hamilton	Robert M. Leahy USDA/ CAPS Brad A. Danner DPI/ CAPS	host	Leaves affected with <i>Mycoleptodiscus indicus</i> develop necrotic tissues followed by dark brown to black sporodochia. Sporodochia are usually more prevalent on the lower leaf surface and may occur singly or in clusters. Under favorable conditions aseptate conidia are produced and spread to other plants through wind and rain.
<i>Gossypium hirsutum</i>	cotton	<i>Myrothecium roridum</i>	stem and petiole lesions	Agriculture research center	88935	Jackson	Robert M. Leahy USDA/ CAPS Brad A. Danner DPI/ CAPS	host	Disease symptoms of <i>Myrothecium</i> leaf spot appear as lesions with concentric necrotic rings, and with sporodochia irregularly distributed on petioles, leaves and bolls of cotton cultivars.



PLANT SPECIES	COMMON NAME	CASUAL AGENT	DISEASE NAME	LOCATION TYPE	SPECIMEN NUMBER	COUNTY	COLLECTOR	NEW RECORDS	NOTES
<i>Olea europaea</i>	olive	<i>Neofusicoccum</i> sp.	twig dieback	Agriculture research center	88681	Suwannee	Robert M. Leahy USDA/ CAPS Brad A. Danner DPI/ CAPS	host	<i>Neofusicoccum</i> sp. is an important pathogen associated with woody plants occurring on a wide range of hosts: woody branches, herbaceous leaves, stems of grasses, and on lichens.
<i>Olea europaea</i>	olive	<i>Phomopsis</i> sp.	twig dieback	Agriculture research center	88681	Suwannee	Robert M. Leahy USDA/ CAPS Brad A. Danner DPI/ CAPS	host	Trees affected with <i>Phomopsis</i> sp. develop lesions or dead areas of bark on branches throughout the tree crown. On small branches these lesions are reddish-brown to black with sunken margins. Small black fruiting structures of the fungus can sometimes be seen.
<i>Olea europaea</i>	olive	<i>Diplodia</i> sp.	stem canker	Agriculture research center	88897	Suwannee	Robert M. Leahy USDA/ CAPS Brad A. Danner DPI/ CAPS, Josh Hildebrandt DPI/CAPS	host	<i>Diplodia</i> sp. is a genus of anamorphic fungi in the family Botryosphaeriaceae. <i>Diplodia</i> affects numerous plant species with similar symptoms involving progressive dieback of shoots and branches, cankers and collar rot.
<i>Sapium sebiferum</i>	Chinese tallow tree	<i>Pestalotiopsis</i> sp.	leaf spots	Residence	89067	Duval	Robert M. Leahy USDA/ CAPS Brad A. Danner DPI/ CAPS	host	<i>Pestalotiopsis</i> sp. is a fungal disease that is considered usually a minor disease. It attacks foliage that has been injured or weakened by unfavorable growing conditions.





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